

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of Patrick W. Kelley
Appln. No. 10/691,416
Filed: 10/22/2003
For: Plastic Logs

Art Unit : 1775
Examiner : Stephen J. Stein
Atty. Docket: PWK-02-1-D

APPELLANT'S BRIEF

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal from the Final Rejection of all claims pending in the above-described patent application. A Notice of Appeal was filed on May 2, 2005 setting a term expiring July 2, 2005 for submitting the brief. This brief is submitted with a petition for 1 month extension of time to August 2, 2005. The statutory fee of \$250 for submitting this Brief and extension of time fee of \$60 is paid with the accompanying Credit Card Payment Form. This Brief is submitted in triplicate.

1. Real Party in Interest

The real party in interest by assignment from the named-inventor is Sund & Gorman Company, a Pennsylvania corporation having a place of business in Saylorsburg, Pennsylvania.

2. Related Appeals and Interferences

The Appellant is unaware of any Appeals or Interferences related to this Appeal.

3. Status of Claims

Claims 1 and 4-13 are pending. Claims 2 and 3 have been cancelled without prejudice and stand withdrawn from consideration. Claims 1 and 5 are independent. Claims 4 and 6-9 are dependent from claim 1. Claims 10-13 are dependent from claim 5. All the claims stand finally rejected under 35 USC 103(a). Appellant appeals all of the rejections of each of the claims.

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4. Status of Amendments

A Request for Reconsideration of the Final Rejection (without amendment) was submitted on May 2, 2005. An Advisory Action indicated that Applicant's arguments did not overcome the rejections made over the prior art of record.

In the claims listed in the Appendix to this brief claims 9 and 13 are amended by deleting the word "greater" to correct the ambiguity in the phrase "not less greater than". Entry of this amendment is respectfully requested to correct the ambiguity.

5. Summary of Invention

Plastic products for fencing and lumber are common real world architectural products, e.g. for yard privacy fencing and deck materials. Plastic products are also common in simulated and toy products, e.g. for toy log houses. Despite the ubiquity of "plastic logs" the subject matter of this invention is plastic logs that are characterized by a novel combination of materials of construction, dimensions, and structural properties that make the plastic logs uniquely suitable for durable post and rail fencing applications, e.g. for corralling horses, an application previously demanding tougher materials of construction like natural wood. For instance, in claim 1 the logs are characterized by the novel combination of

- (a) having an average diameter greater than 2 inches,
- (b) having a flexural modulus at 40 °F of at least 70,000 psi ,
- (c) having a diameter deviation in the range of 2 to 60% , and
- (d) comprising at least 80% thermoplastic materials comprising at least one polyolefin selected from the group consisting of polyethylene and polypropylene.

In another aspect of the invention the plastic logs of claim 1 are further characterized as comprising at least one other polymeric material having a melt temperature at least 20 °C. higher than the melt temperature of said polyolefin.

In claim 5 the plastic logs are alternatively characterized as

- (a) having deviations in diameter simulating a natural wood log
- (b) comprising at least 80% polypropylene and
- (c) having an average diameter greater than 2 inches,
- (d) having a flexural modulus at 40 °F of at least 90,000 psi and

(e) having a diameter deviation defined by the algorithm $((D-d)/D) \times 100$ in the range of 2 to 60%, where D is the maximum diameter and d is the minimum diameter.

Plastic logs for post and rail fencing applications are more particularly characterized by the limitations of claims 6-13. For instance claims 6 and 10 characterized logs having a length in the range of 5 to 7 feet; claims 8 and 12 characterize logs having a length in the range of 8 to 10 feet; and claims 7, 9, 11 and 13 characterize logs having an average diameter of not less than 3.5 inches.

6. Issues

The issue in this Appeal is whether any of claims 1 and 4-13 which are directed to plastic logs are unpatentable under 35 USC 103(a) for allegedly being obvious over a combination of references which disclose

- (i) “simulated” logs made of PVC (polyvinyl chloride) thermoplastic, i.e. US 5,253,458 (Christian), and
- (ii) imitation/simulated tree parts which are made of various materials including polypropylene “bark” DE 2823064A (Whitten).

7. Grouping of claims

Group I - Claims directed to plastic logs of independent claim 1 and its dependent claims 4 and 6-9 stand or fall together.

Group II - Claims directed to plastic logs of independent claim 5 and its dependent claims 10-13 stand or fall together.

A copy of the claims on appeal is attached hereto as Appendix A.

8. Argument

The Section 103(a) rejection of the claims

The primary reference in rejecting the claims is US 5,253,458 (Christian) which is directed to a log and panel pre-fabricated house structure where the disclosed logs various round or square tubular-shaped logs. The logs have a substantially uniform surface dimension (diameter) over their length except at apertures for receiving bolts and

comprise sections of polyvinyl chloride (PVC) tubing filled with a hard cast foam and optionally reinforced with a steel beam.

The secondary reference DE 2823064A (Whitten) discloses decorative model trees having a wire skeleton supporting a sleeve trunk which is coated with a texture material to simulate a natural tree bark. The texture coating can be sisal, coconut, animal hair, cotton, wool, nylon and polypropylene among other materials. Clearly the texture materials suggested by Whitten are in the nature of fluff to be adhered to a substrate.

Appellant submits that neither reference whether alone or in combination teaches or suggests the plastic logs characterized by either of independent claims 1 or 5. More particularly, Appellant submits that a *prima facie* case of obviousness has not been made for the following reasons:

- 1) Christian does not teach or suggest plastic logs with a diameter deviation limitations of either claim 1 or claim 5;
- 2) Christian does not teach or suggest plastic logs comprising the materials of construction limitations of either claim 1 or claim 5;
- 3) there is no motivation or suggestion to combine the cited references; and
- 4) Christian and Whitten are in non-analogous arts and do not seek to solve the same problem as Appellant.

Christian does not teach or suggest plastic logs with a diameter deviation limitations of either claim 1 or claim 5.

Appellant submits that a person of ordinary skill in the art looking at Christian's figures would know that Christian's round or square logs must be uniform and smooth at least at the interlog contacting surfaces so as to permit being stacked to provide a building structure with durable and reliable construction. Christian does disclose that the logs can be "precast with simulated external log design". However, absent any amplification by Christian on its meaning (which is lacking) a person of ordinary skill in the art, knowing how tubing is made and the requirements for stacking would understand the Christian means a decorated surface, e.g. a painted surface, as is common on printed plywood which simulates grain and knots in a smooth surface.

To provide a plastic log commercially suitable for post and rail applications the logs must have a surface that replicates natural logs and without the uniformity required for stacking in a wall panel. Such a surface is characterized in claim 1 as a diameter deviation in the range of 2 to 60% and in claim 5 as a diameter deviation defined by the algorithm $((D-d)/D) \times 100$ in the range of 2 to 60%, where D is the maximum diameter and d is the minimum diameter. These are unique characteristics of roughness that encompass the surfaces produced by the method and apparatus disclosed in Appellant's specification. These are unique characteristics that are quite unlike the smooth surface of extruded pipe used and needed by Christian. These are unique characteristics of roughness that provide a plastic log that is commercially useful as post and rail fencing. These are unique characteristics of roughness that are not taught or suggested by Christian.

Christian does not teach or suggest plastic logs comprising the materials of construction limitations of either claim 1 or claim 5.

To achieve the structural durability for post and rail fencing Appellant requires that the plastic logs of claim 1 comprises at least 80% thermoplastic materials comprising at least one polyolefin selected from the group consisting of polyethylene and polypropylene.

Christian discloses that the basic log component is PVC tubing which due to its uniformity allows stacking for building panels. The inherent frailty of PVC pipe is overcome by filling the logs with foam or reinforcing with structural steel members. Such structure is not structurally or aesthetically suitable for plastic logs useful for post and rail fencing as characterized by claim 1. There is no suggestion to a person of ordinary skill in the art to effect any modification of the Christian logs to achieve log characterized by claim 1, i.e. comprising at least 80% thermoplastic materials comprising at least one polyolefin selected from the group consisting of polyethylene and polypropylene. As was disclosed in an earlier communication the polyolefins are characterized by unique physical properties of strength, durability and flexural modulus, e.g. at least 90,000 psi at 40 °F, a characteristic that makes them uniquely suitable for plastic logs intended for real world post and rail fencing unlike simulated, toy or model fencing.

Similarly to achieve the structural durability for post and rail fencing Appellant requires that the plastic logs of claim 5 comprises at least 80% polypropylene. As argued

above, there is no teaching or suggestion to modify the materials in the Christian logs to use a material comprising at least 80% polypropylene.

Whitten's disclosure of simulated trees does not teach, suggest to, or motivate a person of ordinary skill in the art to modify the structural log components of Christian's prefabricated house.

The deficiencies of Christian in failing to teach or suggest the plastic logs of this invention having a diameter deviation and a unique material of construction are not supplemented by the disclosure of decorative model trees by Whitten. These decorative model trees have a wire skeleton supporting a sleeve trunk which is coated with a texture material to simulate a natural tree bark. As disclosed at page 15, second paragraph, the texture coating can be sisal, coconut, animal hair, cotton, wool, nylon and polypropylene among other materials. Clearly the texture materials suggested by Whitten are in the nature of fluff to be adhered to a substrate. None of these materials are used for their structural properties, but rather for hiding a wire or tube with a camouflaging texture. Thus, the mere listing of polypropylene as one of many texture materials for simulating bark on the sleeve does not teach or suggest any substantive modification of Christian for diameter deviation in a log comprising or major material of construction.

If Whitten suggests modifying the smooth surface of the Whitten adding texture to Christian's logs, it would be by adding a texture coating of sisal, coconut, animal hair, polypropylene (fluff), etc. Whitten does not suggest modifying the surface with deviations as required by the limitations in claims 1 and 5.

Nor does Whitten suggest modifying the overall materials of construction by replacing PVC with sisal, coconut, animal hair or polypropylene (fluff). More particularly, Whitten does not suggest replacing all of the Christian PVC with at least 80% of the texture materials. Even if, for the sake of argument, a person of ordinary skill in the art was motivated to substitute a material in Christian with one listed by Whitten, the mere change of PVC for polypropylene would not provide a log with at least 80% thermoplastic because the PVC content of the Christian logs is, apparently, less than 20% of the volume of the logs.

No suggestion or motivation to combine cited references

There is no motivation to a person of ordinary skill in the art of building materials such as plastic logs to look for suggestions in the art of decorative trees. In *In re Oetiker*, 24 USPQ 2d 1443 (Fed Cir., 1992) the court of Appeals for the Federal Circuit, a judicial body charged with overseeing the patent issuing mission of the U.S.P.T.O., reversed an obviousness rejection holding that references were improperly combined, stating in relevant part:

The combination of elements from nonanalogous sources, in a manner that reconstructs the applicants' invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicants' invention itself.

The fact that separate of the references have common names does not mean that a person of ordinary skill would, *sua sponte*, make the combination absent some direction in the art to do so. Appellant submits that only in hindsight would it be proposed to make the whole sale modifications to the Christian logs by reference to a texture coating material disclosed by Whitten. This obviousness rejection is clearly an impermissible hindsight combination of references from dissimilar fields of art.

Christian and Whitten are in non-analogous arts and do not seek to solve the same problem as Appellant

The Board's attention is directed to *In re Clay*, 23 USPQ 2d 1058 (Fed. Cir. 1992) in which the CAFC, in reversing a rejection based on non-analogous art, gave the USPTO guidelines for combining references based on similarity of the art. Attention is specifically directed to the CAFC's instruction stating that:

Two criteria determine whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

Appellant admits that a person working on plastic logs for post and rail fencing might look at the Christian reference as it disclosed logs for constructing housing but would not look for art relating to decorative simulated trees. Christian and Whitten are not in the same field of endeavor. In Clay nonanalogous art was deemed to have been improperly combined. Appellant submits that the proposed combination of Christian and Whitten, in non-analogous arts, would similarly be improper.

Attention is also directed to *In re Deminski*, 230 USPQ 313,315 (Fed. Cir., 1986), which states


The determination that a reference is from a nonanalogous art is therefore twofold. First, a court decides if the reference is within the field of the inventor's endeavor. If it is not, the court proceeds to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved.

Whitten addresses the problem of appearance of a simulated decorative tree, e.g. as might be used in a retail store window, without regard to functional utility. Christian addresses the problem of structural utility of a construction log, e.g. as might be encountered in a prefabricated building, where decorative appearance is a minimal consideration which can be addressed by PVC tubing which is "precast with simulated external log design". Appellant's invention addresses the unique problems of plastic logs that are designed for use as post and rail fencing. Such logs are not achieved by modifying one of the structures disclosed by Christian or Whitten. Any such modification could only be achieved by hindsight reconstruction using Appellants claims as a template.

Summary - In view of the foregoing, it is respectfully requested that the Board of Patent Appeals and Interferences reverse the final rejections of all of the appealed claims.

Respectfully submitted,

Date: Aug 2, 2005



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APPENDIX A

Claims on Appeal

WHAT IS CLAIMED IS:

1. A plastic log having an average diameter greater than 2 inches, a flexural modulus at 40 °F of at least 70,000 psi and a diameter deviation in the range of 2 to 60% wherein said log comprises at least 80% thermoplastic materials comprising at least one polyolefin selected from the group consisting of polyethylene and polypropylene.
- 2-3. (cancelled)
4. A plastic log of claim 1 further comprising at least one other polymeric material having a melt temperature at least 20 °C higher than the melt temperature of said polyolefin.
5. A plastic log having deviations in diameter simulating a natural wood log comprising at least 80% polypropylene and having an average diameter greater than 2 inches, a flexural modulus at 40 °F of at least 90,000 psi and a diameter deviation defined by the algorithm $((D-d)/D) \times 100$ in the range of 2 to 60%, where D is the maximum diameter and d is the minimum diameter.
6. A plastic log of claim 1 having a length in the range of 5 to 7 feet.
7. A plastic log of claim 6 having an average diameter not less than 3.5 inches.
8. A plastic log of claim 1 having a length in the range of 8 to 10 feet..
9. (currently amended) A plastic log of claim 8 having an average diameter not less greater than 3.5 inches.
10. A plastic log of claim 5 having a length in the range of 5 to 7 feet.
11. A plastic log of claim 10 having an average diameter not less than 3.5 inches.
12. A plastic log of claim 5 having a length in the range of 8 to 10 feet..
13. (currently amended) A plastic log of claim 12 having an average diameter not less greater than 3.5 inches.